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SECTION I-A

THE NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION

1. INTRODUCTION.

The Naval Air Warfare Center Training Systems Division (NAWCTSD) was established in 1941 as the Special Devices desk within the Bureau of Aeronautics under the leadership of CDR Luis de Florez (later Admiral de Florez), a visionary who foresaw the tremendous potential of "synthetic" training. At its current location in Orlando, Fl., NAWCTSD occupies the de Florez building, named in honor of its first leader.

Over the years, many significant events have shaped NAWCTSD. In 1950, a formal agreement between the Army and Navy to cooperate in the development of training systems marked the beginning of a joint effort between the services which is still in effect. Today the US Army Simulation, Training and Instrumentation Command (STRICOM) is co-located with NAWCTSD. The US Marine Corps maintains a formal Liaison Office at NAWCTSD, in addition to its Program Directorate. The US Air Force maintained a Liaison Office for many years and now has an Operating Location, the USAF Training Systems Product Group, co-located with NAWCTSD. Strong ties have also developed with academia and with the extensive industry base for modeling, simulation and training systems forming a Center of Excellence for Simulation and Training.

In 1979, NAWCTSD was designated a major shore command. Major claimancy (chain of command) has changed several times over the years; the latest change was in 1985 when claimancy transferred from the Chief of Naval Research to the Commander Naval Air Systems Command. NAWCTSD has also had several name changes over the course of its history reflecting both mission growth and organizational change. Immediately prior to becoming part of the Naval Air Warfare Center in 1993, the organization title was Naval Training Systems Center (NAVTRASYSCEN); some of the instructions and forms referenced in this document still refer to that organizational title.

2. MISSION, FUNCTIONS, AND ORGANIZATIONAL RELATIONSHIPS.

The mission, functions, and tasks of the NAWCTSD, as delineated in Naval Air Systems Command Instruction (NAVAIRSYSCOMINST) 5420.20A, are:

a. Mission.

The Mission of the Naval Air Warfare Center Training Systems Division (NAWCTSD) is to be the principal Navy center for research, development, test, and evaluation, acquisition, and product support of training systems; to provide interservice coordination and training systems support for the Army and Air Force; and to perform such other functions and tasks as directed by higher authority.

b. Functions and Tasks.

(1) Training Systems:

(a) Serves as the Department of the Navy's Center of Excellence for technical expertise in and support of training systems.

(b) Acts as the Navy's primary agency responsible for acquisition of training systems. Provides project management and contracting support services for the acquisition of training systems, training support, and training curricula.

(c) Conducts engineering design and development of training systems and equipment for all platform and warfare areas.

(d) Provides systems engineering analyses to support training device requirements/planning for manpower, personnel, and training decision making.

(e) Provides product logistics support for training systems including on-site in-service engineering and technical assistance with installation, specialized maintenance, utilization, software support, and modification of training systems and equipment.

(f) Provides instructional systems design and development including media selection and curriculum development.

(g) Conducts training situation analyses to identify functional requirements for new or modified training systems including information on facilities and logistic elements necessary for life cycle support.

(h) Supports the evaluation of training effectiveness.

(i) Conducts analyses of technical risk and cost factors to identify alternative training approaches for new and/or modified weapon systems.

(j) Performs as Cognizance Symbol 2"0" inventory manager for training devices and related technical support/material specifically assigned to Naval Air Warfare Center Training Systems Division for cataloging and support, maintains the technical operational support baseline for life cycle support, provides support for configuration management, and budgets for and schedules rework and repair as required.

(k) Develops life cycle support plans including maintenance concepts and life cycle cost estimates.

(l) Provides training systems support for the Army and Air Force, non-DOD agencies, and for foreign government under the security assistance program. Coordinates programs with other services to foster jointness.

(2) Research and Development.

(a) Directs and conducts a full range of research and development in training simulation and related technologies to support training systems acquisition and develop the technology base.

(b) Recommends the application and manages the transition of technologies and methods to improve training.

(c) Identifies and coordinates new research to meet the needs of changing operational requirements.

(d) Coordinates research with industry and academia through cooperative research and development.

c. Product/Commodity Functional Area Assignments.

NAWCTSD major product and functional area assignments are described in enclosures (2) and (3) of NAVAIRSYSCOMINST 5451.87B.

d. Functions and Tasks Performed for the Chief of Naval Operations (CNO), Other Systems Commands (SYSCOMs), and Training Agencies (TAs).

NAWCTSD performs many of the functions and tasks identified in paragraphs 2.b.(1) and 2.b.(2) above in support of the Chief of Naval Operations (CNO) , Systems Commands (SYSCOMs) and Training Agencies (TAs), either through Memoranda of Agreement (MOAs), or other similar arrangement. (e.g., NAVAIRSYSCOM and NAVSEASYSCOMs MOA. Subj: Training Devices Support and use of the NAWCTSD), established procedures for NAVSEASYSCOM to task the NAWCTSD for the functions described in paragraphs 2.b.(1) and 2.b.(2)).

3. NAWCTSD COMPETENCY ALIGNED ORGANIZATION STRUCTURE.

a. The Chain of Command and Divisions Within the Naval Air Warfare Center (NAWC).

As one of three divisions within the Naval Air Warfare Center (NAWC), NAWCTSD has been streamlined to provide increased support to all customers through close cooperation and resource sharing with both NAWC Weapons Division (NAWCWD) and NAWC Aircraft Division (NAWCAD). Figure I-A-1. below is a block diagram depicting the Chain of Command and the organization structure of the NAWC.

b. Transition to a Competency Aligned Organization.

NAWCTSD's most important asset is its workforce of approximately 1,000 experienced and capable employees, organized and dedicated to support specific warfare program and project teams. These employees (including scientists, engineers, project man-

CHAIN OF COMMAND

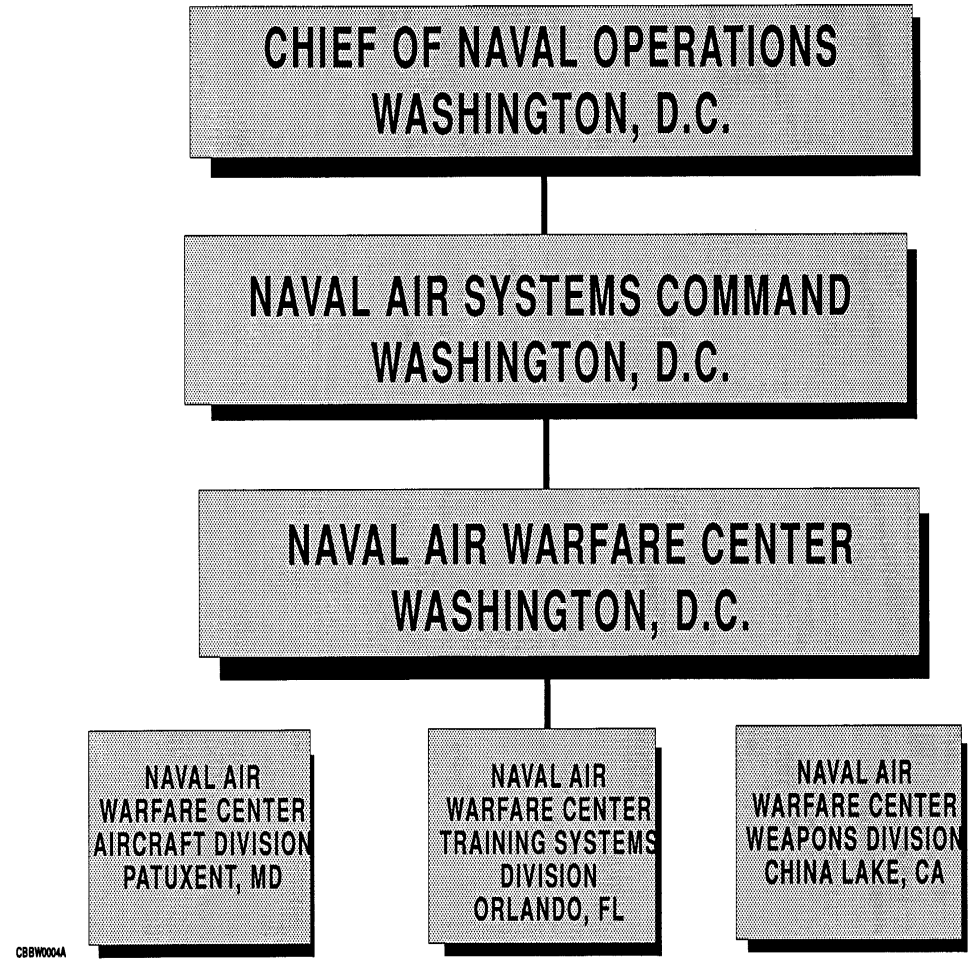

Figure I-A-1. Naval Air Headquarters Organization

agers, psychologists, logisticians, education specialists, and other support disciplines) provide “full spectrum” services for the fleet and for a diverse customer base throughout the training community.

As part of the Naval Aviation TEAM, NAWCTSD transitioned its personnel effective 1 October, 1994, into a Competency Aligned Organization (CAO). CAO is the TEAM’s new organizational concept, structured around competencies that provide skills, knowledge, technical facilities , and equipment to project teams. It is a matrix-type management approach selected to maximize use of resources to meet workload demands. Competencies group resources by discipline (such as Research and Engineering) or by related functions (such as Corporate Operations). There are six competencies at NAWCTSD:

Program Management (1.0)

Contracts (2.0)

Logistics (3.0)

Research and Engineering (4.0)

Corporate Operations (7.0)

Shore Station Management (8.0)

Process improvements under the Competency Aligned Organization will be accomplished through application of Total Quality Leadership (TQL). Based on concepts developed by Dr. W. Edwards Deming and other pioneers, TQL puts the focus of all work processes on continuous improvement to meet and exceed customer expectations. Within the CAO, customers are both internal (to the organization) and external.

The NAWCTSD organization is shown in Figure I-A-2. Appendix B provides additional description of responsibilities assigned to each Competency.

c. Role of the NAWCTSD Program Directors.

Within the Program Management Competency (Code 1.0), NAWCTSD has fully accountable Program Directors (PDs) (as shown in Figure I-A-2) whose role is to provide focus and advocacy for specific customer and supplier relationships. Each PD is governed by a charter (NAVTRASYSCEN-INST 5400.6, Charter for the NAVTRASYSCEN Program Directors). Summaries of mission and specific areas of cognizance for each PD follow:

(1) Program Director Mission. To provide leadership, direction, priorities, and control to the planning, management, execution, and control of assigned and derived training and training systems products or programs; to provide active projection of NAWCTSD’s mission and capabilities with the full range of sponsors, customers, and suppliers; to continually measure, evaluate, and improve the economy efficiency, and effectiveness of the program management process and products being delivered.

(2) Program Areas.

(a) Aviation (10A). Naval (including Marine Corps Aviation) training programs, systems and products relating to the Aviation weapon systems, platforms and environment, including aircraft, missiles, air traffic control, Aviation systems, and other related systems, less those products where the product primarily supports a C4I or Space and Electronic Warfare (SEW) operational mission; and support for Aviation-related training provided by the Chief, Naval Education and Training (CNET) and its subordinate commands.

(b) Battle Force/ C4I /SEW (10B). Training programs, systems and products relating to the battle force or group management, C4I, and/or SEW systems, platforms and environments, including aircraft, special and "black" projects, integrated electronic communications, surveillance, and countermeasure systems, tactical and strategic simulation/training, other related systems; and support for related training provided by the Naval War College, CNET and other similar or subordinate commands.

(c) Marine Corps (10M). Training programs, systems and products relating to the Marine Corps combat systems, platforms and environments. Marine Corps Order 5290,2, Marine Corps Training and Visual Information Support Policy

NAWCTSD ORGANIZATION

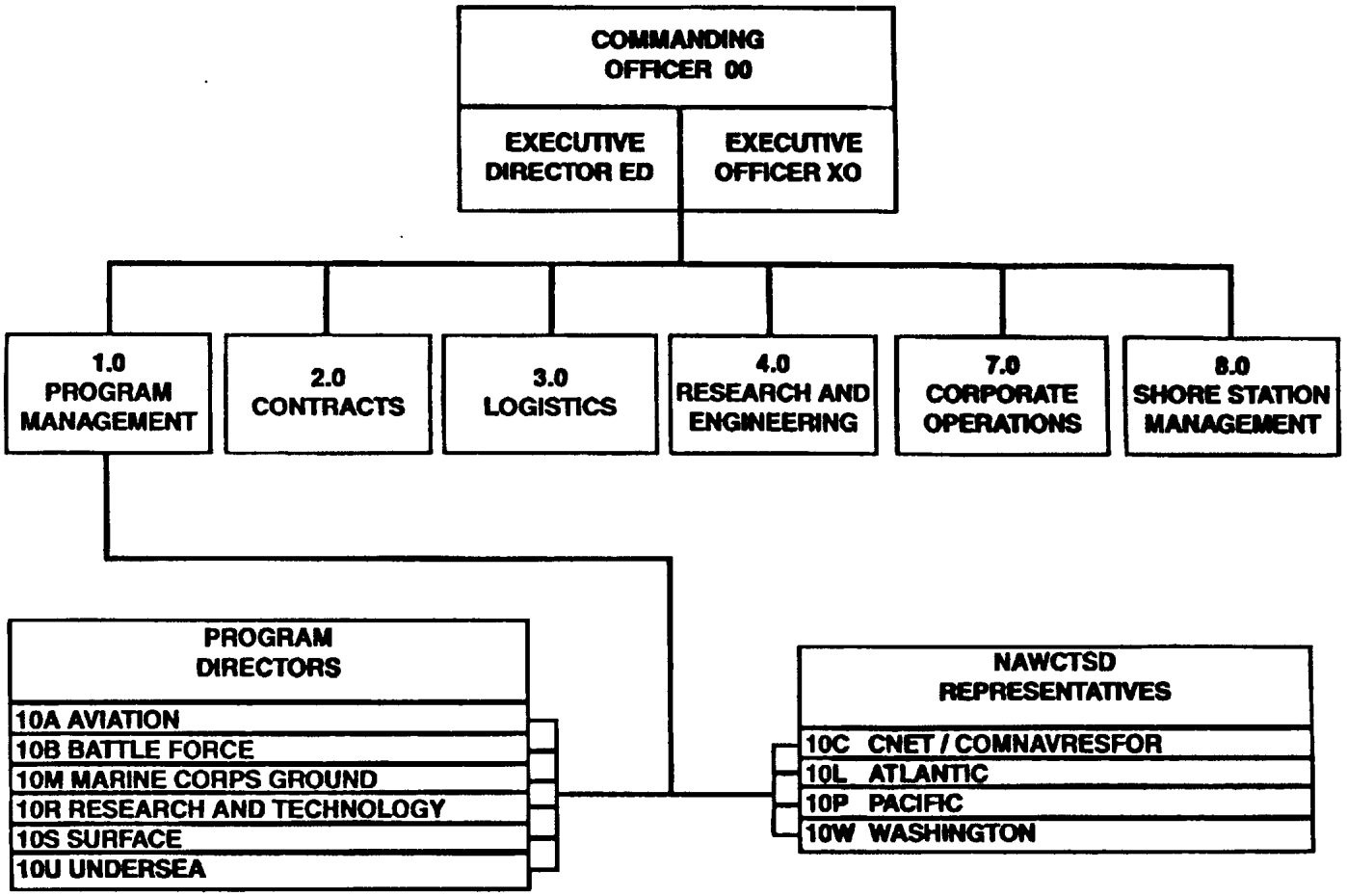

Figure I-A-2. NAWCTSD Organization Chart

(Marine Corps Ground Programs Only), defines ground training systems/devices as follows:

Standard ground training devices/systems are those developed during the acquisition of major systems, end items, or weapons for which Marine Corps Order P5000.10, Systems Acquisition Management Manual, is applicable.

Nonstandard ground training devices/systems are those developed and/or acquired independently of and not directly associated with specific acquisition programs for major weapon systems or end items. Requirements for these devices are forwarded to the Commanding General, Marine Corps Combat Development Command (Code C 465).

(d) Research and Technology (10R). Research and Development Program Management is a joint responsibility with the Research and Technology Directorate, and the other PDs who provide oversight for R&D funding in the 6.3, 6.4, and the advanced technical demonstration areas. Other funding areas (6.2, SBIR, IR/IED, NSAP, IR&D) and overall program planning and execution are managed by 10R, with inputs from the other PDs.

(e) Surface (10S). Training programs, systems and products relating to the Surface Navy weapon systems, platforms and environment, including ships, ship systems, ship launched missiles and munitions, and other related systems; and support for Undersea-related training provided by CNET and its subordinate commands.

(f) Undersea (10U). Training programs, systems and products relating to the Undersea weapon systems, platforms and environment, including submarines, submarine systems, integrated Undersea surveillance, deep submergence and other related systems; and support for Undersea-related training provided by CNET and its subordinate commands.

d. Roles of Other Competencies.

(1) All new work comes into NAWCTSD through the PD in the Program Management Competency (Code 1.0). (The primary processes by which new work is identified, funded, and tasked to NAWCTSD are described in Section II.) Each PD is responsible for coordinating management of all assigned projects through a designated Project Manager (PJM). The PJM is the central figure with delegated responsibility to provide management support to all project activities. The PJM relies on support drawn from the other Competencies to carry out the task objectives, from requirements definition, through acquisition, production transition and initial fleet introduction, to the operational phase of the training system. Competencies provide functional specialists who are responsible for how the work is to be done; the PJM is responsible for what is done.

(2) The following paragraphs provide a brief synopsis of the principal types of functional support and the interface relationships provided to the PD/PJM. (Descriptions of the responsibilities of each Competency at NAWCTSD, including Command/Operational/Regulatory Components not listed below, may be found in Appendix B.)

(a) Research and Engineering/ Research and Engineering Training Systems (Code 4.0/4.9). Provides research, development, field support, and all aspects of hardware and software engineering/technical analysis support as needed. Also provides front end analyses, economic analyses, training effectiveness analyses, and alternative solution analyses, out year and other planning support and analyses, and the capability for other special studies and system/program/data evaluations as needed.

(b) Logistics (Code 3.0). Provides integrated logistics support for all products and provides management of contractor operation and maintenance of simulators and inventory management as needed. In addition, provides inventory management for Cog 2"O" training systems, configuration management/status accounting, standardization, data man-

agement, and operates repositories for product drawings and publications.

(c) Contracts/Contracts Training Systems (Code 2.0/2.7). Provides contractual and business support to effect the successful completion of the program.

(3) A typical training system project team is depicted in Figure I-A-3.

e. Product Support. NAWCTSD performs the full range of product support as defined in NAVAIRINST 5420.35A, for the users or custodians of its in-service devices/systems. The Navy and Marine Corps custodians of Cognizance Symbol 2"O" (Cog 2"O")

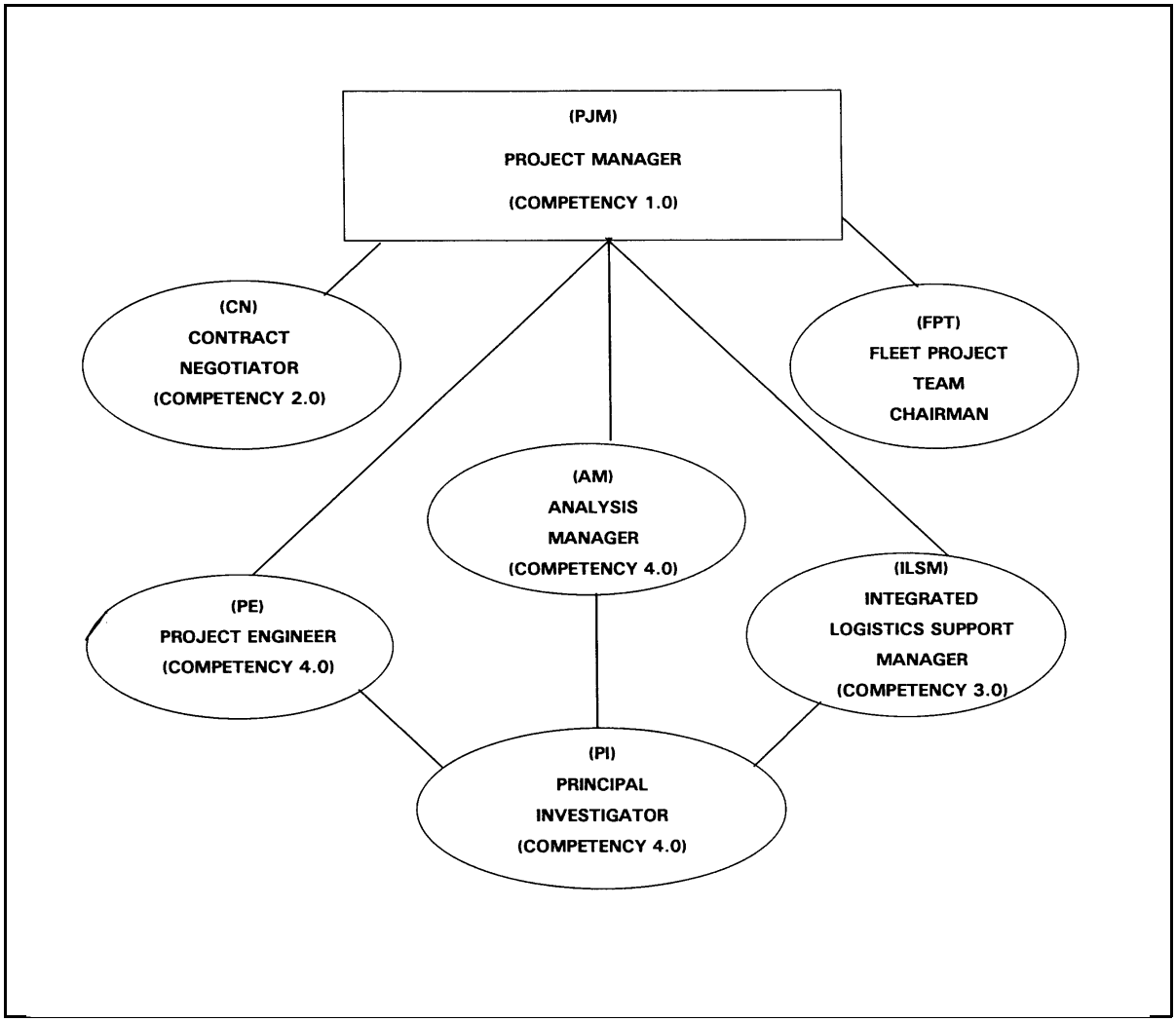

Figure I-A-3. Training Device Project Team

(d) Comptroller/Financial Management (Code 76). Provides, advises, and assists in all areas of financial management; ensures that policies and procedures are established to execute the 31 US Code 1517 responsibilities, and to prevent 31 US Code 1301(a) violations as needed.

equipment already in service may request many forms of product assistance. There are approximately 2,382 devices in the Cog 2"O" inventory valued at over $3.45 billion.

(Note: the term Cog 2"O" identifies a specific category of "items of material" within the Navy inventory management system, i.e., training devices and training systems which have

been associated, through a specific set of procedures, with this inventory designator. NAWCTSD is the designated Navy inventory manager for Cog 2"O" devices.)

NAWCTSD's principal product support advocates are the PDs, the NAWCTSD Representatives (Codes 10L, 10C and 10P), the Research and Engineering Competency In-Service Engineering Offices located at training sites, and the Competency Manager for Logistics (Code 3.0). However, all NAWCTSD Competencies may be involved in providing product support. The training system life-cycle support process is a team effort beginning at acquisition project initiation and ending with device/system disposal.

4. NAWCTSD FIELD ORGANIZATION.

NAWCTSD's field organization includes three NAWCTSD Representatives, (one in Portsmouth, VA., one in Pensacola, FL., and one in San Diego, CA) , as well as In-Service Engineering Offices (ISEOs) collocated at the sites of in-service training devices/systems throughout the US. The NAWCTSD Representatives work with customers and sponsors (CNET/COMNAVRESFOR; ATLANTIC; PACIFIC) as representatives of the Program Management Competency to facilitate intercommand working relationships, processes, and communications. The Research and Engineering Competency ISEOs provide a full range of product support elements for the Cog 2"O" inventory of devices/simulators that are in use.

SECTION I-B

TRAINING SYSTEMS AND TRAINING DEVICES

1. GENERAL.

a. This section outlines the role of NAWCTSD in the Naval training and training support community by viewing that role in context, relative to the roles of other involved naval organizations. This section also describes changes in the NAWCTSD role for each phase of a training system's life cycle, and explains how NAWCTSD products are supported relative to support for the weapon system which initiated the need for the training system.

b. Useful reference documents related to this topic are: OPNAVINST 1500.8M, Navy Training Planning Process; OPNAVINST 5000.50A, Navy Training Simulator and Device Acquisition and Management; and Naval Supply Systems Command Manual, Volumes 1 and 2.

2. COG 2"O" TRAINING DEVICES, SIMULATORS, EQUIPMENT, AND SYSTEMS

a.Training Devices/Simulators.

OPNAVINST 5000.5A defines a training simulator/device as follows:

Hardware and software which have been designed or modified for training purposes involving simulation or stimulation in its construction or operation to demonstrate or illustrate a concept or simulate an operational circumstance or environment. For the purpose of this instruction, the term training device will include training simulators. The term training device system includes the training device and its supporting logistics, maintenance, instructional development, and facilities. Training devices do not include training targets, which are developed per OPNAVINST 5000.42C.

b.Cognizance Symbol 2"O" Training Equipment.

The Cognizance Symbol 2"O", or Cog 2"O", designator is an inventory management term that denotes which material support activity is responsible for procurement and overall inventory management of the equipment. Cog 2"O" equipment is defined as those training end items which have been specifically developed, procured, catalogued, and distributed by NAWCTSD to meet a training requirement. NAWCTSD is the inventory manager for all Cog 2"O" end items. The term end item is a configuration management/inventory management term which applies to the total hardware and software parts and subsystems of which the device is comprised. Cog 2"O" also includes some training devices procured outside NAWCTSD, which have subsequently been declared Cog 2"O" by following a prescribed set of instructions.

c. Training Systems. OPNAVINST 5000.5A Defines a Training System as:

The curriculum materials, classroom aids, training simulators and devices, and other equipment used to train active duty and reserve military personnel and selected civilians to operate, maintain, and employ a material system. This includes individual and team training, new equipment training, initial and follow-on training, on-the-job training, proficiency training, and the facilities and logistic support for training simulators, devices, and equipment. The training system is described in the applicable Navy Training Plan (NTP).

This written definition is illustrated graphically in Figure I-B-1, which depicts a Weapon System Training System (WSTS). That Figure shows that Cog 2"O" training devices/simulators are only one kind of many sub-elements needed for a typical WSTS. The training device plus its required training support system (logistics, maintenance or operator personnel, facilities, and training materials) constitutes a training device system which is a sub-element of the WSTS. It is this training

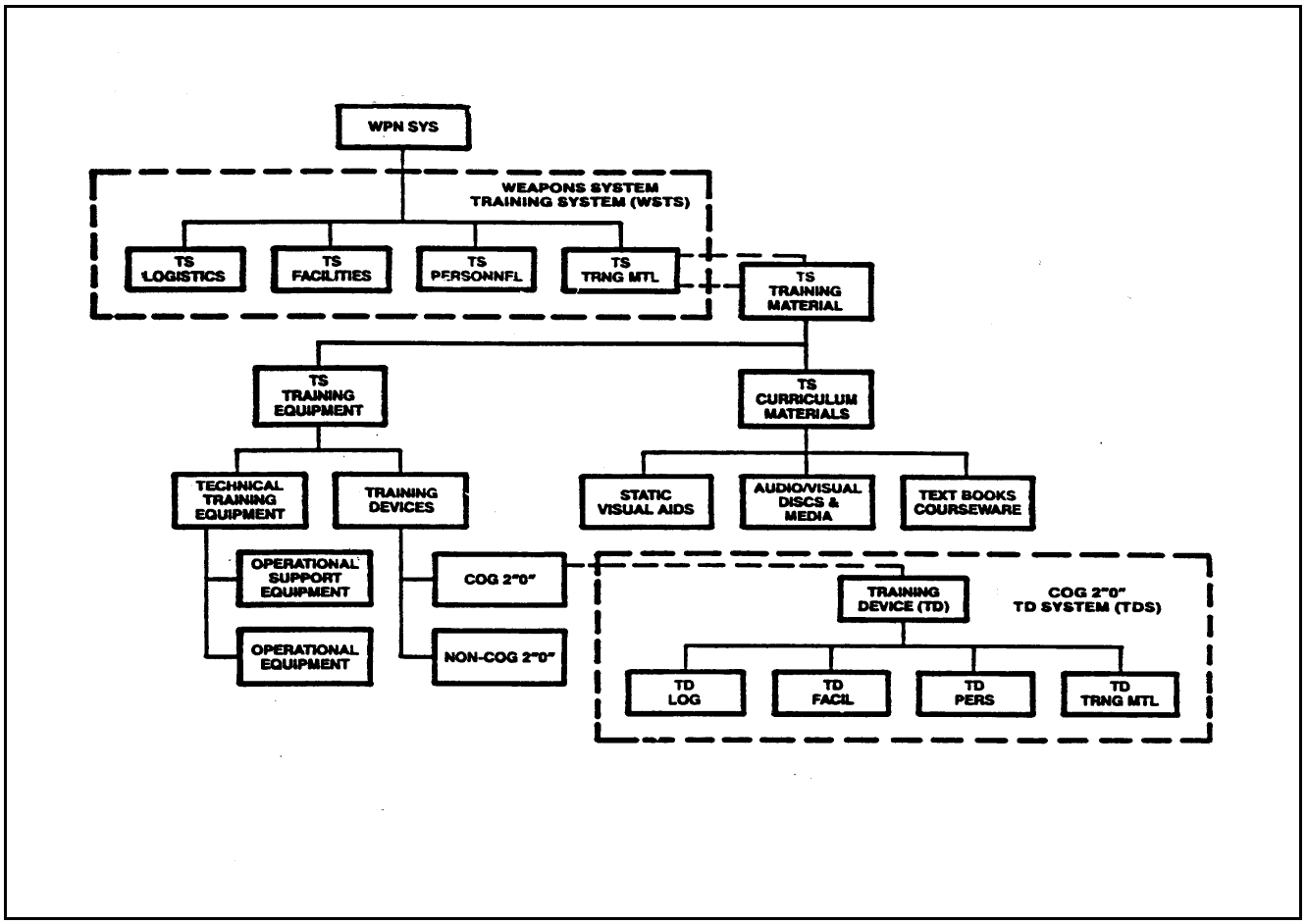

Figure I-B-1. Weapons System Training System (WSTS)

device system which is meant by the reference "Cog 2"O" training device system", as used in this guide.

d. Purpose of the Training System.

The purpose of the WSTS is to train personnel to do their particular jobs. The trainer may teach, re-teach, or provide the ability to practice and maintain skills associated with a particular job. The trainer may focus on a particular weapon system, or may train team tactics or Battle force management skills. Recent introduction of interactive courseware and Distributed Interactive Simulation (DIS) have greatly expanded the scope and capabilities of training systems. The Cog 2"O" training device system also provides training that either can't be done at all in other parts of the weapons system training system (e.g., aircraft crash scenarios), or can't be done as safely, economically, or effectively.

3. COG 2"O" TRAINING DEVICE GENERAL CHARACTERISTICS.

a. Cog 2"O" devices not only simulate or stimulate the operational equipment but also can simulate the warfare environment in which the equipment is used or situations to which the equipment is subject (e.g., failures which threaten or cause loss of equipment and personnel). Therefore, Cog 2"O" devices typically have significant subsystems or equipments which are not replicated in any other Navy equipment. Training devices are bought because they have these unique capabilities, or because the related life cycle costs are significantly less than those for other equipment which might be used to train.

b. Sometimes a training device may contain, as an integral subsystem, unmodified operational equipment from a weapon system/operating platform which is referred to as tactical equipment, or embedded Technical Training Equipment (TTE). TTE can also be used external to the Cog 2"O" device in the same

training area. TTE may stimulate or be stimulated by the Cog 2"O" device. TTE is discussed in more detail in paragraphs 7 and 8.

4. COG 2"O" TRAINING DEVICE CATEGORIES BY DOLLAR VALUE AND INVENTORY CHARACTERISTICS.

a. If the device end item dollar value is $500K or greater, it is referred to within the NAWCTSD as a "major" device. Major devices are typically bought in small (one to five) quantities. Devices whose dollar value is less than $500K are consequently referred to as "minor"; however, in the past, some customers have very reasonably objected to use of the term "minor" to describe their training devices. A more precise categorization of Cog 2"O" devices, one used by NAWCTSD's inventory management specialists, is the three-tier approach described below. This division by Value Class will be referenced throughout this guide:

Value Class 1: device plant property dollar value from $5000 to $99,999

Value Class 2: device plant property dollar value from $100,000 to $499,999

Value Class 3: device plant property dollar value $500K and over.

b. There are some Cog 2"O" end items with very low dollar value which are not classified as plant property items; they are referred to as non-plant property items.

c. The Navy's total Cog 2"O" device inventory dollar value is over $3.45 billion.

5. COG 2"O" TRAINING DEVICE RELATIONSHIP TO THE WEAPONS SYSTEM INTEGRATED LOGISTICS SUPPORT PLAN (WSILSP) AND NAVY TRAINING PLAN (NTP).

a. In Figure I-B-1, the reader can see that the requirements for a new Training Device System (TDS) are one element of the total WSTS resource package. The TDS, which includes the Cog 2"0" training device, is procured as part of the Weapon System's total Integrated Logistics Support (ILS) package. The WSILSP, which is developed by the cognizant Systems Command/Principal Development Agency, includes a Training and Training Support (TTS) section.

b. The TTS Logistics Element Manager (LEM) of the Weapon System (WS) Integrated Logistics System (ILS) Management Team develops and coordinates the TTS section. The WSILS Team develops and distributes the initial draft Navy Training Plan (NTP) and convenes the first NTP conference to obtain feedback. The TTS section will describe the NTP, if one exists. The approved NTP is the principal document stating training, billets, personnel, military construction, and training material support requirements to support new WS requirements. The NTP also references the Training Device Requirements Document (TDRD) which will be described in more detail in Section II of this guide. The NTP and TDRD identify the relative roles of the training device and other equipment in meeting the objectives of the training system. The training device will generally have its own ILS Plan. It is rare for the training device to have its own NTP. The TDRD, ILS Plan, and Equipment Facilities Requirement (EFR) Plan will address the training support elements needed by the training device to make it function as the Cog 2"O" training system illustrated in Figure I-B-1. These training support elements may not be specifically addressed in the NTP since it is focused on the weapon system.

c. While the NAWCTSD is involved in the device concept formulation and acquisition phase planning for the training device support elements, it does not acquire or provide all of those elements. Examples of elements that are not provided by NAWCTSD are the training device facilities and personnel, which are the responsibility of the Training Agency (TA).

6. NUMBERING COG 2"O" DEVICES.

Figure 1-B-2 is a matrix that shows the basis for the alphanumeric system used for the designators that identify Cog 2"0" devices. A designator identifies all Cog 2"0" equipment. This designator relates primarily to the training function.

It also serves to distinguish an item from any other device/equipment which differs in form, fit, or function. Each device designator can be broken into parts to provide information about the device. The first one or two numbers of a designator identify the functional category. The following letter designates the training category subdivision. The numbers

COGNIZANCE SYMBOL 2"0" EQUIPMENT DESIGNATOR TABLE
SECTION I. TYPE DESIGNATORS FOR TRAINING DEVICES

2 F 66 A

- 2 — Major functional or training category
- F — Training category subdision
- 66 — Consecutive number
- A — Type letter

NOTE: The table below does not necessarily apply to devices introduced prior to Febuary 1958

MAJOR TRAINING PURPOSE		TRAINING CATEGORY SUBDIVISION							
FUNCTIONAL CATEGORY	No.	A	B	C	D	E	F	G	H
Navigation	1	Celestial	Piloting		Dead Reckoning	Electronics			Misc
Aviation	2	Aircraft systems	Instrument	Cockpit Checkout Procedures	Combat Intelligence Procedures	Visual Tactics	Operational Flight/ Weapon Systems		Misc
Armament (Loading & Handling)	3	Tank	Bombs and Rockets	Mines and Torpedoes	Anti-Aircraft	Artillery	Small Arms		Misc
Classroom Communicators and Supporting Media (1)	4	Communica-tors	Slide/Tape Programs	Classroom Communica-tion Systems	Video Equipment	Individual Study	Sound Equipment	Projection Equipment	Misc
Recognition Training	5	Ships	Aircraft	Night Vision			Electronic Warfare		Misc
Basic Science (2)	6	Mechanical	Electronic	Mathematics	Physics (Nuclear)	Electricity	Computer	Oceano-graphy	Misc
Intelligence/Reconnaissance	7	Aerial	Surface Subsurface	Interpretation	Infra-Red*	Photo-graphic*			Misc
Communication (3)	8	Telegraphy	LASER*	Cryptologic*	Radio	Voice	Visual*	Data Link/ Satellite	Misc
Physiological Training	9	Chambers & Aviation Medicine	Land Sea	Survival	Ditching	Emergency Escape	Parachute	Escape/ Evasion	Misc
Electronic Warfare(4)	10	ECM	DECM	ECCM	I-R Counter-measures	ELINT* ESM			Misc
Maintenance Training*(5)	11	SONAR*	Electronics*	Cryptologic*	Propulsion*	Electricity*	Structures* (Air frame)	Weapon* Systems	Misc
Guided Missile	12	Weapons Direction	Loading & Handling	Familiariza-tion	Launching Systems	Maintenance & Testing	Fire Control		Misc
Anti-Submarine Warfare	14	Surface	Air-ASW	Non-Acoustic	Acoustic	SONAR	Sub surface*		Misc
RADAR	15	Air Search	Surface Search	Fire Control	CIC*	EW(6)	AEW/* Navigation	Ground Controller Approach & Air Traffic Control	Misc
Combined Operations	16	Air Support	Command & Control*	Amphibious					Misc
Land Operations	17	Infantry	Armor	Anti-Tank	Tactics	Artillery	Automotive		Misc
Special Weapons	18	Delivery	Loading & Handling	Familiariza-tion	Chemical/ Biological Warfare	Radiological Warfare			Misc
Propulsion Engineering*	19	Steam Plant*	Principles*	Damage* Control Maintenance	Turbine* Control Maintenance	Equipment* Maintenance	Fire* Fighting	Turbine* Control Operations	Misc
Surface Operations (Ship)*	20	Tactics	Procedural/ Team*	Ship Control Damage Control	Mine Warfare*	Equipment Weapons Control*	CIC Command Control - Ship*	Amphibious*	Misc
Undersea Operations (Ship)*	21	Tactics	Procedural/ Team*	Ship Control Damage Control*	Mine Warfare*	Equipment/ Weapons Control*	CIC Command Control - Ship*	Amphibious*	Misc

SECTION II. TYPE DESIGNATOR FOR ACCESSORIES

PN 2241 — Required prefix to indicate accessory
PN MEM70 — Manufacturer's Part No. or Cataloging Request No.

SECTION III. TYPE DESIGNATORS FOR SPECIAL TOOLING

5AB4A ST
- 5AB4A — Type Designator of device for which tooling is stocked
- ST — Required suffix to indicated special tooling

(1) Represents teaching aids used to deliver training programs in the classroom.
(2) Training equipment used in the classroom to teach the various scientific disciplines of typical (not specific) systems.
(3) Training devices used to teach the various modes of communication as the subject of instruction.
(4) Training devices developed for training on operational procedures within the environment of electronic warfare.
(5) Equipment which provides basic maintenance training at the field level on specific equipment (e.g. A4D aircraft, F14, DD963).
(6) Training equipment designed for teaching techniques in the use of EW equipment.
* Revised/added.

Figure I-B-2. Cog 2"0" Equipment Designator Table

that follow designate the consecutive sequence of this type of trainer, and the ending letter identifies a change to the device. The following is an example of the device designator from the Operational Flight Trainer (OFT) for the S-3A aircraft:

Cog 2"O" Designator for the S-3A OFT:
2 F92A;

2 - is the functional category for Aviation;

F - is the training category subdivision for Operational Flight Trainer/Weapon System Trainer (OFT/WST);

92 - is the consecutive sequence (the 92nd number assigned to OFT/WST type trainers);

A - denotes a change to the form, fit, or function.

[NOTE: The suffix number for a modification is unnecessary when all serial numbered units of a device are to be changed to the same configuration.]

7. TECHNICAL TRAINING EQUIPMENT (TTE)

a. Support responsibilities for the other elements of the WS training system rest with other organizations. In Figure I-B-1 the training equipment labeled Technical Training Equipment (TTE) is defined by OPNAVINST 1500.52 as "technical fleet operational equipment devoted to the training and instruction of Naval personnel, for which PDAs, PMs, or Systems Commands have the responsibility for the design, development, modernization, or selection for service or special use." (OPNAVINST 1543.49 is the governing OPNAV TTE instruction.)

b. Support for TTE is the responsibility (per OPNAVINST 1500.52) of the PDA/PJM/Systems Command. The responsible SYSCOM Trainer Support Activity (TSA) to support a specific piece of training equipment can usually be determined from the nameplate/name tag on the equipment end item (the total device/complete equipment). The nameplate or name tag will identify the cognizant material support community organization. The Manual for the Acquisition and Life Cycle Support of Technical Training Equipment (TTE), which is published by direction of Commander, Naval Sea Systems Command, is an excellent reference for TTE custodians.

c. Since TTE and training devices are often used in hybrid combinations in the same WSTS and are even connected to each other in some schoolhouses (in which case the training device will either be stimulating or stimulated by the TTE), it is natural that some confusion arises as to determining "which is which". The check for a nameplate, name tag, or stamp has already been mentioned as a first step. The next step is to check the Custody and Inventory Record, or the Inventory Shortage Record of Accountable Items. The equipment serial number listed will reveal whether or not the operational equipment being checked is an integral part of the training device or is TTE. If there is still an identification problem, the local NAWCTSD in-Service Engineering Office (ISEO) or the cognizant Program Director (PD) in Orlando can be contacted for assistance. (Appendix E provides additional information on contacting these NAWCTSD personnel.)

d. The following explanation may also be helpful in understanding the operational equipment/training device relationships and their different support systems:

(1) Operational equipment is equipment procured as part of the Weapon System (WS) Operating Platform (OP) to meet WS/OP mission or operating requirements. It is not procured for training purposes. However, some may be needed in the WSTS to enable operators/maintainers to gain familiarity with it in a safe and structured environment.

(2) Additional amounts of unmodified operational equipment are bought over that amount needed for the WS/OP in order to satisfy the training requirements. Within the WSTS, some of the operational equipment will be used with no interconnection/link with a Cog 2"0" device. Such operational equipment is called TTE. Even if there is a connection or link between the TTE and a Cog 2 "O" device, it will mean that one of the equipments is stimulating (feeding signals to) the other, and each will keep their separate designations.

e. Unmodified operational equipment used as part of a training device is considered part of the device's Government Furnished Equipment (GFE). It has a very special interrelationship with, and role in, the training device.

Changes to such unmodified operational equipment or the device it is a part of, often will affect the special interface or relationship between them, requiring some redesign of the device's hardware/software components. Because of this the NAWCTSD must take appropriate action when such changes occur.

f. As long as the operational equipment that is part of the device's GFE remains unmodified and is an item procured under the WS/OP cognizant SYSCOM's specifications (not contractor acquired operational equipment (CAOE)), it is entitled to the same organizational, intermediate, and depot level support provided to TTE or WS/OP equipment. NAWCTSD's action in this regard is twofold:

(1) Communicate with the designated SYSCOM or In-Service Engineering Agent to ensure that the training device's GFE gets the same update as the TTE at the appropriate time.

(2) Determine changes needed to the device interface(s) with the new version of the operational equipment and initiate action to have the interface(s) altered simultaneously with the change to its operational GFE.

8. TRAINING AND LIFE-CYCLE SUPPORT COST FACTORS.

a. Some advantages of using Technical Training Equipment (TTE) to satisfy a Weapon System Training System(WSTS) requirement are:

(1) It is the same equipment the trainee will interface with in fleet operations.

(2) It requires no development costs for use in the WSTS.

(3) It comes with a ready made maintenance support concept and supply system support.

b. Some advantages of using a training device instead of using TTE to satisfy a WSTS requirement are:

(1) Training devices have capabilities not generally found in other equipment used for training. They not only simulate the operational equipment, or stimulate it, but also can simulate the tactical, geographic, and topographic environments in which the equipment will be used, or emergency situations which it may be subject to (e.g., failures which threaten or cause loss of equipment and personnel).

(2) Training devices are often bought because their life-cycle operating and support costs to the Navy are significantly less than those for any other equipment used in corresponding training situations.

(3) In WSTS training courses utilizing only TTE, changes in training requirements must be met by changing the training courseware and software, not the TTE. On the other hand, in WSTS training courses using training devices, the devices can be modified to meet new training requirements because this is their only purpose.

(4) TTE must compete with its counterparts in weapons systems/operating platforms for priority supply support parts/actions, since TTE consists of Navy supply system parts/components. Training devices have relatively few such parts or components, consisting primarily of Trainer Unique Equipment (TUE) not in the standard Navy stock system. Accordingly, there is relatively little training device competition for common Navy supply system parts/components. (However, there frequently is such competition for training device supply support procurement priority actions. This is addressed further in Section V.)

(5) TTE may have a higher more accelerated wearout rate and failure rate because it will be used to train unskilled personnel in its operation and maintenance, and used in a training pipeline that continuously subjects it to extensive periods of operation by recurring classes of such trainees. Because of these factors, the planned maintenance system and concepts and the overall schedules which were developed for the TTE's counterpart equipment in fleet use may not be valid. When used for training the need for overhauls, supply support allowances for spare parts usage rates, and related costs may be much higher for TTE than corresponding equipment in fleet use.

c. The training device or TTE considerations listed in paragraphs 8.a and 8.b should be an important part of the Training System Requirements Document (TSRD). They should

also be part of the process of developing Training System Alternatives Reports (TSARs) described in Section II of this guide.

d. If a training device is selected as the best alternative to meet a training need, an important follow-on consideration is to ensure the device gets benefit of an established, structured system for its life cycle support (e.g., configuration management control, inventory management, and the modification program). The NAWCTSD is the Navy's principal specialist in training device life-cycle support, and has an established, structured system for that support.

9. TRAINING AIDS.

The term Training Aids is a common term that has a broader meaning then training devices. OPNAVINST 5000.50A does not define training aids. However, the OPNAV definition of a training system, as illustrated in Figure I-B-1, is helpful in explaining the difference between training aids and Cog 2"0" training devices. Training aids can be two or three dimensional, so they are really represented in Figure I-B-1 in both training equipment and curriculum materials sub-elements. A training device is an aid in training so in that sense both Cog 2"0" and non-Cog 2"0" devices can be called training aids. The Navy Supply Manual describes training aids first as one of the possible types of training devices, but adds that the term is generally used to describe something other than a training device or TTE. In summary, since it has such a broad meaning, it should be used with an adjective qualifier(s) such as training aid graphics or training aid audio/visuals to clearly convey which of the many types of training aids are being described or discussed.

10. TRAINING DEVICE POLICIES.

The following information from OPNAVINST 5000.50A should be noted:

a. Training devices will be included as part of the WS program initiation process under the Manpower, Personnel, and Training (MPT) consideration of the cognizant systems command (SYSCOM);

b. Training devices will be planned, programmed, budgeted, reviewed, and managed as part of the weapon or training system they support;

c. Training devices will have the same priority as the weapon or system they support and be funded accordingly.

d. Training devices are specified in a TDRD during the WS's Program Initiation Process. The TDRD is developed by the cognizant SYSCOM (or by the NAWCTSD if so delegated by the SYSCOM), and will be a sub-element of the Manpower, Personnel, and Training Resource Requirements Document (MPTRRD). The MPTRRD is a product of the training program analysis made for proposed new weapons systems using the HARDMAN methodology mandated by OPNAVINST 5311.7.

e. The TDRD subsequently becomes a part of the WS NTP. Whether or not an NTP is developed is decided by the Deputy Chief of Naval Operations/Deputy Major Staff Office (DCNO/DMSO) based on SYSCOM/Principal Development Activity (PDA) recommendations.

f. The training device acquisition responsibility is that of the cognizant SYSCOM or its designated PDA. The NAWCTSD may be assigned this responsibility by the cognizant SYSCOM, or may be used to assist the SYSCOM in the acquisition.

SECTION I-C

KEY PLAYERS IN THE TRAINING SYSTEMS COMMUNITY

1. GENERAL.

a. NAWCTSD does not initiate, sponsor, prioritize, nor fund Cog 2"0" requirements. The NAWCTSD can help define the requirement, provide useful information, and perform training analysis to help substantiate the requirement, and recommend alternative media. The requiring activity must take the necessary actions to get the desired sponsorship and funding by working through the appropriate review channels for its own environmental warfare or general area. The Aviation, Surface, Undersea, and Marine Corps Ground training channels are all different from each other. Section II provides overview information on this subject. However, there are certain roles of the Chief of Naval Operations Systems Commands (SYSCOMs), NAWCTSD, and shore based and fleet training activities which are standard or common to all training device requirement situations.

b. NAWCTSD may receive tasks and support requests related to training device requirements because of two general training situations: (1) The SYSCOM requires the NAWCTSD's assistance with training analysis or requirements in connection with a new weapon system (WS) acquisition or major modification; or (2) The fleet or training organizations sense some deficiency in the available existing suite of Cog 2"0" training equipment to meet evolving fleet training needs or to better meet existing ones. In the latter cases, NAWCTSD assistance can be obtained by contacting the appropriate Program Director (PD) in Orlando. (Appendix E provides information on contacting PDs.)

2. ROLES OF THE KEY PLAYERS IN THE TRAINING DEVICE ACQUISITION PROCESS.

a. Sponsors.

The CNO sets requirements for training equipment and directs the training of all forces afloat and all Aviation related training of Navy and Marine Corps Aviation personnel. Sponsorship roles are assigned within CNO to facilitate the overall direction of Navy programs in accordance with Navy directives and policies. During Program Objective Memorandum (POM) development, the program or assessment sponsor, resource sponsor, and appropriations sponsor play key roles.

(1) Program or Assessment Sponsor. A program or assessment sponsor is a Deputy Chief of Naval Operations (DCNO) or Deputy Major Staff Office (DMSO) responsible for determining:

(a) Program objectives;

(b) Time phased support requirements;

(c) Appraising progress;

(d) Assessing readiness and military worth of a given weapon system, function, or task.

Within designated assessment areas, the sponsor will determine issues, prepare baseline evaluation, monitor program development, and update baseline evaluation during POM development. These updates to the POM will include comments on compliance with Secretary of Defense (SECDEF), Secretary of Navy (SECNAV), and CNO guidance and recommendations for program balance.

(2) Resource Sponsor. A resource sponsor is a DCNO or DMSO responsible for an identifiable aggregation of resources. These resources establish inputs to warfare and supporting warfare tasks. As such, the resource sponsor is responsible for interrelated programs or parts of programs found in several mission areas. In the accomplishment of this responsibility, resource sponsors program the resources assigned to their respective areas and exercise the necessary liaison with the appropriation sponsor. This ensures the establishment of effective and balanced programs within fiscal guidance. Resource sponsors may be warfare sponsors (sometimes called platform sponsors) for Undersea (N87), Surface (N86), or Aviation (N88) pro-

grams, or they may be support sponsors in areas such as Manpower, Personnel, and Training (MPT) (N01) or Intelligence (N2).

(3) Appropriation Sponsor. An appropriation is a category of money formally set aside for a specific use. The money received by the Navy through Congressional action is placed into appropriations based on its intended uses. An appropriations sponsor is responsible for supervisory control over an appropriation. The resource sponsor is responsible for applying the appropriated resources so that the resource sponsor's goals and objectives are satisfied, and also, so that force levels and program objectives of both the resource and program/assessment sponsors are supported. The appropriation sponsor will serve as the primary Navy spokesperson on matters of interest to program or assessment sponsors to ensure a balanced presentation is made during Planning, Programming, and Budgeting System (PPBS) reviews.

(a) Examples of appropriation sponsors are:

Undersea, N87

Surface, N86

Aviation, N88

(b) Within the DCNOs, N879, N869, and N889 are the Training Divisions. Thus, they are key organizations related to training requirements for their respective warfare environment.

(4) N7 Special Role. N7 provides the following:

(a) Policy and doctrine;

(b) Procedural guidance;

(c) Coordination action for planning and implementing manpower and training in support of new developments;

(d) Approval/issuance of NTPs;

(e) Other actions important to Naval training programs.

b. Training Agency (TA).

A TA is an activity exercising command of and providing support to some major increment of the Department of the Navy's formalized training effort. TAs include the Commanding General, Marine Corps Combat Development Command, Code C 465 (CG, MCCDC); Chief of Naval Education and Training (CNET); Commander in Chiefs of the Atlantic and Pacific Fleets (CINCLANTFLT/CINCPACFLT); the Commander, Naval Reserve Force (COMNAVRESFOR); and the Commander, Naval Medical Command (COMNAVMEDCOM). All training device requirements are initiated by either the CNO or the TAs. A TA has the following funding responsibilities:

(1) Provision of the basic building or ground sites required for the installation of technical or specialized equipment furnished by a Training Support Agency (TSA);

(2) Provision of organizational and intermediate level maintenance (including Navy stock account parts and materials) for Technical Training Equipment (TTE) which has been accepted;

(3) Removal and reinstallation of TTE incident to a alteration, modification, or repair to the training facility's physical plant, the shifting of equipment within the training facility. Removal and reinstallation incident to physical relocation from one training activity to another for the sole convenience of the TA;

(4) Training to meet fleet or other requirements after initial training has been completed;

(5) Provision of minor modifications or curriculum materials used in established courses in the TA's training activities;

(6) Provision of all other equipment, supplies, and training materials used in day-to-day operations and required for training or instructional purposes in training activity under the command of the TA.

c. Training Support Agency (TSA).

(1) A TSA is an activity such as a Systems Command (SYSCOM) that is responsible for supporting the TAs by providing training material and other forms of support for new acquisitions. The NAWCTSD often performs as a TSA. The TSA has responsibility for the design, development, and modernization of

technical or specialized equipment for training in general service use, or for the selection of equipment for special training use. The TSA provides the TA with a training capability for new equipments, subsystems, and systems.

(2) The TSA's responsibility encompasses all investment and expense costs required to develop the training capability. These funding responsibilities include procurement, installation, removals and reinstallation, initial training (including factory training), and technical manuals to support the introduction of training. The TSA is also responsible for providing curriculum materials for training for new weapons systems and equipment and major modifications to existing equipment.

(3) The TSA identifies training resource requirements for programming purposes, and budgets programmed resources. The TSA also employs approved resources to develop, procure, deliver, and install the total training system. The TSA provides initial training which is normally provided at the factory by contractor personnel. When the training system is in place and accepted, the TA conducts follow-on and replacement training which is normally conducted by the Navy in Navy schools. The TSA and TA have different funding responsibilities (Navy Comptroller Manual Vol. 7, 2 Apr 70 w/change 63, 22 Jul 93).

d. Major Claimants.

(1) Claimants are upper echelon activities that have primary responsibility for program execution. Major claimants are identified as those major Navy commands and activities which are funded directly and who, in turn,

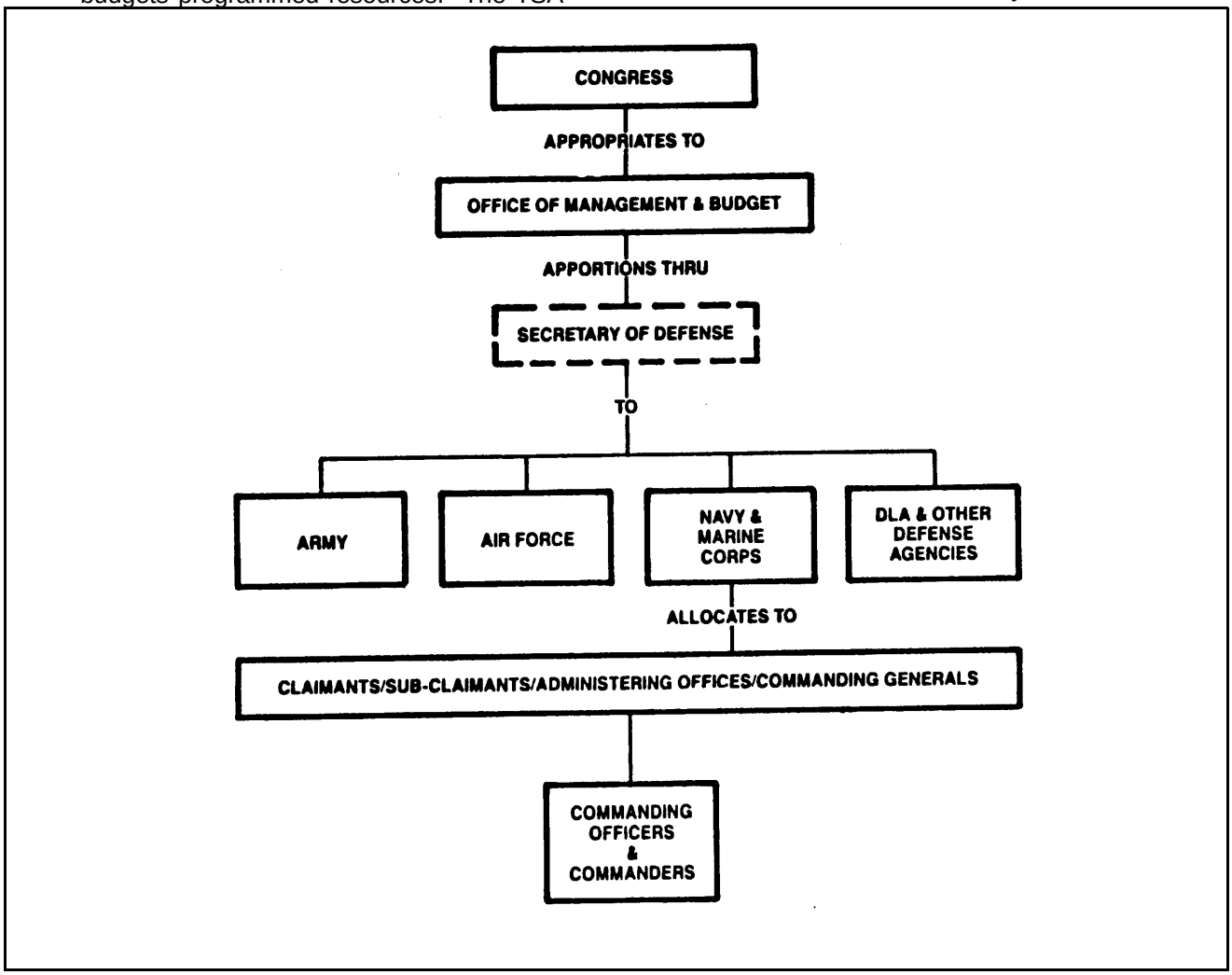

Figure I-C-1. The Military Funding Process

must redistribute those funds to subordinate commands.

(2) Claimants play a key role in establishing POM program priorities and budget development. The POM is defined as a memorandum in prescribed format submitted to the Secretary of Defense by the secretary of a military department or the director of a defense agency which recommends total resource requirements within the parameters of the published Secretary of Defense fiscal guidance. The Military Funding Process is outlined in Figure I-C-1.

(3) Examples of major claimants are:

Commander in Chief Pacific Fleet

Commander in Chief Atlantic Fleet

Commander in Chief of the Navy, Europe

Chief of Naval Education and Training

Commanding General, Marine Corps Combat Development Command

e. Controlling Custodians.

As the term applies to Cog 2"0" training devices, these are major fleet and training commands exercising administrative control over the assignment, movement, and use of Cog 2"0" training devices within their respective command areas, to conform to fleet training requirements and to achieve optimum device utilization. After the devices' Navy Support Dates (NSDs), controlling custodians and their subordinate reporting custodians are sources of new requirements for training devices or modifications thereto.

f. Reporting Custodians.

Reporting custodians are subordinate commands of the controlling custodians. They are the activities having physical custody of the training device being reported and are responsible to the controlling custodians for proper training device operational readiness reporting, personnel, or organizations that use the training devices. This term also includes collectively the training device users and their military superiors in the chain of command up to and including the CNO.

g. User.

The Cog 2"0" training device user is the principal Navy or Marine Corps person or organization for whom the training device has been developed. In some cases the user is also the reporting custodian. For example, an Air Wing may be the reporting custodian and the user because it is the Air Wings aircrews that are being trained. On the other hand, Fleet Antisubmarine Warfare Training Center Atlantic (FLEASWTRACENLANT) is the device reporting custodian for its devices, but the users are the ship's crews that are being trained by using FLEASWTRACENLANT's devices.

h. User Community.

The user community includes the segment of the fleet personnel or organizations that use the training devices. This term also includes collectively the training device users and their military superiors in the chain of command up to and including the CNO.

i. Material Community.

This term applies collectively to the SYSCOMs, NAWCTSD, and other organizations. They exist for the purpose of developing, procuring, maintaining, and supplying the material needed by the Fleet. In the Naval training world, members of the material community are also TSAs, as defined earlier.

j. Principal Development Activity (PDA).

The PDA is defined as the agency assigned by the cognizant Systems Commander or DCNO/DMSO program sponsor to undertake management and technical responsibility for development within the approved acquisition plan (See OPNAVINST 5000.50A, Navy Training Simulator and Device Acquisition and Management, 12 Aug 87). The NAVAIRSYSCOM delegates PDA responsibilities for Cog 2"0" training devices to the NAWCTSD.

k. Functional Commanders.

These are third echelon training commands under the cognizance of the Chief of Naval Education and Training (CNET) that include: Commander, Training Command, U.S. Atlantic Fleet (COMTRALANT); Chief of Naval Air Training (CNATRA); Commander, Naval Edu-

cation and Training Center (NETC); and Commander, Training Command, U.S. Pacific Fleet (COMTRAPAC).